



Indoor Air Problems from Heating & Ventilation

This is the season when our children spend the most time indoors. It's also the time that our homes and apartments are more tightly sealed and our heating cranked up. Indoor air problems can abound and as children are still developing and breathing more air than adults, they are particularly at risk.

Health Effects on Children

There are a wide range of health effects on children that can be attributed to indoor air pollution, in general, and heating and ventilation, in particular. They include:

1. **Carbon Monoxide (CO)** - This deadly gas is produce as a result of damaged heat exchangers from gas furnaces. CO is also produced by kerosene space heaters, fireplaces, gas clothes dryers and ovens/stoves. NEVER use stoves or ovens to heat your home!

Health Effects - At low concentrations, fatigue and chest pain in healthy people . At higher concentrations, impaired vision and coordination, headaches, dizziness, confusion, nausea, and flu-like symptoms. If these effects disappear when you or your child leave the home, it is possible that CO is the culprit. In the most serious cases, CO can lead to death and, in fact, many children die from CO poisoning in their own homes each year.

2. **Moisture, Mold & Mildew** - During the heating season, some families use humidifiers. These devices put more moisture into the air, sometimes promoting the growth of various molds and mildews.

Health Effects - Eye, nose and throat irritation; shortness of breath; dizziness; drowsiness;

fever; asthma; humidifier fever (a respiratory illness) and influenza.

3. **Dust and Dust Mites** - Furnace vents are perfect places for dust to collect. This is especially true when filters are not properly maintained. Dust mites, microscopic animals found in household dust, produce a common allergen.

Health Effects - Same as for molds and mildew. The most important thing to know about dust mites is that the allergen produced has been shown to trigger asthma attacks in children.

What can you do to make your home healthier for your children?

Furnace - Have your heating system inspected and serviced every year before the heating season begins. Repair fuel or gas leaks promptly. Follow service and maintenance guidance, including changing your filter. Also, you may want to have ducts and grilles cleaned, especially if there is a noticeable dust build-up.

Fireplace - Have your flue and chimney inspected annually for blockages, leaks and other damage.

Gas/Kerosene Heater - Only use fuel recommended by the manufacturer. Refill outside, check wicks, etc., and if using in an unvented space, open a door to the rest of the house or, in some cases, open a window slightly to improve ventilation.

Moisture, Mold & Mildew - Keep living spaces dry; limit humidifier use.

House Dust Mites - Clean house and vacuum regularly. Wash bedding in hot water. Limit standing dust as much as possible.

For more information on indoor air visit EPA's website: www.epa.gov/iaq/

For information on other children's environmental health issues contact Gail Tindal (215-814-2069) or Dan Welker (215-814-2744) of the Region III Children's Health Program.